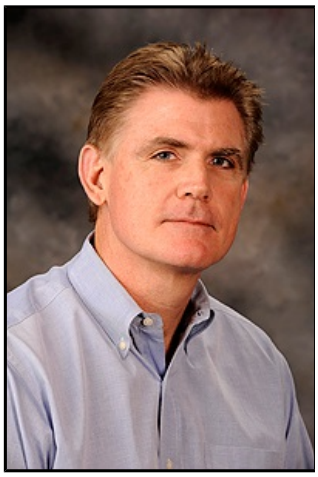
# Casey presents at workshop on stem cells in cardiotoxicity studies

*By Cathy Sprankle*

Pollutants and toxicants in the environment have the potential to damage cells in the heart. Known as cardiotoxicity, it is also a major reason for drug development failure. Because of its importance, scientists from all over the world gathered in Boston March 18-19 to share the best and latest research methods in the field.



*Casey, acting director of NICEATM, spoke at a recent workshop on how cultured heart cells could be used to understand how chemicals may affect heart muscle function. (Photo courtesy of Steve McCaw)*

One of those scientists was Warren Casey, Ph.D., acting director of the National Toxicology Program (NTP) Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM). *(http://iccvam.niehs.nih.gov/)* Casey joined an international group of presenters, representing research institutions, pharmaceutical companies, and government agencies, at the Stem Cell-Derived Cardiomyocytes as Models of Cardiac Pathobiology and Toxicology Workshop.

The Health and Environmental Sciences Institute (HESI), a nonprofit institution that brings scientists together to address global health and environmental issues, sponsored the workshop as a way to assess the current status and potential applications of the use of stem cell-derived cardiomyocytes, or cultured heart cells, for studying cardiotoxicity.

Casey's presentation described how testing approaches, that use cultured cells, might be used in regulatory or safety decision-making contexts.

"Stem cells and other technologies can help us better understand the mechanisms underlying toxicity and disease," he said. "For example, they can help us understand how the genetic diversity of target populations affects toxicity. But, as we move toward using emerging technologies, such as stem cell-derived cardiomyocytes for safety testing, it's important that we develop appropriate validation criteria, so that the data these test methods provide are useful to regulators."

The workshop's goal was to evaluate how such technologies may be used to evaluate risks to human cardiac health from pharmaceuticals and environmental chemicals. Topics discussed included the biology of cultured cardiomyocytes, specific approaches to using them to assess toxicity, how those approaches might be used to benefit public health, and future research and development needed to achieve those public health benefits.

A report from the workshop will be published in a scientific journal, and the recommendations will help pharmaceutical companies and other stakeholders develop improved approaches for this important safety testing area.

(Cathy Sprankle is a communications specialist with ILS Inc., support contractor for NICEATM.)

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